

Appln No. 10/582,302
Amdt date November 20, 2009
Reply to Office action of September 23, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. - 41. (Cancelled)

42. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus comprising:
an instrument having a forward end equipped with ~~or capable of being equipped with a~~
~~diagnostic/treatment tool for diagnosing or treating a lesion in an oral cavity; and~~
a light radiating unit having a first light source for emitting excitation light and a second
light source for emitting illumination light into said oral cavity, said first and second light
sources being disposed at or near said forward end, wherein
a wavelength of said excitation light ~~for exciting light for distinctively detecting said~~
~~lesion~~ is selected from within a near ultraviolet region of 405 ± 50 nm, a red region of 700 ± 100
nm, an infrared region, or a near infrared region.

43. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in
claim 42, wherein said light radiating unit is ~~capable of~~ configured to simultaneously radiating
radiate said excitation light and said illumination light.

44. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in
claim 42, wherein said light radiating unit is ~~capable of~~ configured to selectively or
~~simultaneously radiating radiate~~ said excitation light and said illumination light.

45. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in
claim 42, wherein said illumination light is a white light.

46. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 42,
wherein each of said first light source for emitting excitation light and said second light source

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for emitting illumination light, ~~that said light radiating unit has,~~ include a light-emitting device constructed from a light-emitting diode or a semiconductor laser diode.

47. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 46, wherein said second light source for emitting illumination light includes a light-emitting device for emitting a white light.

48. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 47, wherein said light radiating ~~means unit~~ is ~~capable of~~ configured to simultaneously ~~radiating radiate~~ said excitation light and said illumination light.

49. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 46, wherein said light radiating unit is configured to ~~variably adjusts a adjust~~ light emission ~~levels level of~~ said light ~~sources source~~.

50. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 46, wherein said light radiating unit includes a plurality of light sources for emitting said excitation light at different wavelengths, and is ~~capable of~~ configured to ~~radiating radiate~~ light at one wavelength by switching between said plurality of light sources or is ~~capable of~~ configured to ~~variably adjusting adjust~~ a light emission level of at least one of said light sources.

51. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 50, wherein said light radiating unit includes an excitation light source for emitting said excitation light and a white light source for emitting a white light, and is ~~capable of~~ configured to ~~radiating radiate either~~ said excitation light or said white light by switching lighting between said excitation light source and said white light source, or configured to ~~variably adjusts adjust~~ a light emission level of at least one of said light sources.

52. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 50, wherein said light radiating unit includes a plurality of light sources for emitting said excitation light at different wavelengths, and is ~~capable of~~ configured to ~~radiating radiate~~ said

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excitation light at one wavelength by switching lighting between said plurality of light sources, or is ~~capable of~~ configured to variably adjusting-adjust an excitation light emission level of at least one of said light sources.

53. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 50, wherein said light radiating unit includes a plurality of excitation light sources for emitting said excitation light at different wavelengths and a white light source for emitting white light, and is ~~capable of radiating~~ configured to radiate said excitation light and said white light by switching lighting between said plurality of excitation light sources and said white light source, or is configured to variably adjusts-adjust a light emission level of at least one light source selected from among said plurality of excitation light sources and said white light source.

54. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 42, wherein said second light source of said light radiating unit includes ~~one kind a type of~~ lamp selected from ~~among a group consisting of~~ a halogen lamp, a xenon lamp, a sodium lamp, a metal halide lamp, a mercury lamp, and a blacklight lamp.

55. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 54, wherein said light radiating unit includes an optical filter for selecting light of a designated wavelength from the light emitted from said first light source.

56. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 55, wherein the light of said designated wavelength is selected by ~~replacing another filter with said filter~~ with a second filter having a different characteristic.

57. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 54, wherein said light radiating unit is configured to variably adjusts-adjust a light emission level of said second light source.

58. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 42, wherein said light radiating unit includes a plurality of light sources for emitting said

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excitation light at different wavelengths, and ~~selects~~ is configured to select the excitation light to be emitted by sequentially switching between said plurality of light sources, ~~thereby to~~ sequentially ~~radiating~~ radiate said excitation light at said different wavelengths in a time-division fashion.

59. (Currently Amended) A dental ~~diagnostic and~~-treatment apparatus as claimed in claim 42, wherein said light radiating unit includes a radiating part from which said excitation light and/or said illumination light are radiated toward said lesion, and wherein said radiating part is disposed in said ~~diagnostic/treatment~~ tool or near a mounting portion of said ~~diagnostic/treatment~~ tool.

60. (Currently Amended) A dental ~~diagnostic and~~-treatment apparatus as claimed in claim 59, wherein said excitation light and/or said illumination light are radiated from an area surrounding said ~~diagnostic/treatment~~ tool toward said lesion.

61. (Currently Amended) A dental ~~diagnostic and~~-treatment apparatus as claimed in claim 42, wherein said first and second light sources ~~that said light radiating unit has~~ are mounted on a detachable member formed ~~so as to~~ be detachable from said forward end, and said detachable member includes a connecting member which is ~~capable of~~ configured to detachably ~~engaging~~ engage with said forward end and which, when placed into engagement with said forward end, ~~supplies to~~ supply power to said light sources ~~source~~.

62. (Withdrawn-Currently Amended) A dental ~~diagnostic and~~-treatment apparatus as claimed in claim 42, wherein said ~~diagnostic/treatment~~ tool ~~which radiates treatment laser light~~ is attached to said forward end, and said first and second light sources ~~that said light radiating unit has~~ are disposed on said forward end.

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63. (Withdrawn- Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 62, wherein said light radiating unit radiates said excitation light and said ~~treatment laser illumination~~ light onto said lesion in a time-division fashion.

64. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 42, wherein a radiating part, from which said excitation light and/or said illumination light ~~emitted from said light source that said light radiating unit has~~ are radiated toward said lesion, or each of said first and second light sources ~~that said light radiating unit has~~ is provided in an adapter having a mounting member capable of being detachably mounted on the forward end of said instrument.

65. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 64, wherein said first light source for emitting said excitation light and said second light source for emitting said illumination light into said oral cavity each include a plurality of light-emitting devices, and wherein
said plurality of light-emitting devices are arranged side by side in an end face portion of said adapter.

66. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 64, wherein said adapter has a ring-shaped structure which is detachably fitted onto the forward end of said instrument.

67. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 64, wherein said adapter ~~is equipped with~~ includes an operating part for operating ~~lighting~~ light illuminations of said first and second light sources.

68. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 67, wherein said adapter ~~is equipped with~~ includes a power supply for driving said light sources for lighting.

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69. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 68, wherein said power supply is a primary cell or a secondary cell.
70. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 64, wherein a power supply for driving said first and second light sources ~~for lighting~~ is provided separately from said adapter.
71. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 70, wherein said power supply is detachably mounted on a body of said instrument.
72. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 64, wherein an operating part for operating lighting of said first and second light sources is detachably mounted on a body of said instrument.
73. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 64, wherein said mounting member is configured to elastically holds hold said adapter on the forward end of said instrument.
74. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 64, wherein said adapter ~~is equipped with~~ includes a filter plate having a plane surface perpendicular to an axis direction of a body of said instrument, and said plane surface spreading ~~so as to encircle~~ said body.
75. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 64, wherein when said instrument ~~is equipped with~~ includes an illuminating unit for illuminating said oral cavity, said adapter is mounted at a position that interrupts the illumination light emitted from said illuminating ~~means~~ unit.
76. (Withdrawn-Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 42, wherein said instrument is a laser handpiece ~~capable of~~ configured to radiating radiate a treatment laser light into said oral cavity together with a guide light ~~that serves~~

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~~as a guide in locating to locate~~ an area being illuminated with ~~by~~ said treatment laser light, and wherein

said excitation light is contained in said guide light.

77. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 46, wherein said light source includes said light-emitting device mounted near a mounting portion of said ~~diagnostic/treatment~~ tool.

78. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 77, wherein said light-emitting device is mounted in such a manner as to encircle said ~~diagnostic/treatment~~ tool.

79. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 77, wherein said light-emitting device is accommodated in a position near the mounting portion of said ~~diagnostic/treatment~~ tool.

80. (Currently Amended) A dental ~~diagnostic and treatment~~ apparatus as claimed in claim 42, wherein said light radiating unit includes a plurality of ~~said~~ light sources each for emitting excitation light of a different wavelength, and

an operating part ~~capable of configured to switching switch~~ lighting between said plurality of light sources or ~~capable of configured to variably adjusting adjust~~ a light emission level of at least one of said light sources is mounted on said instrument.